What is claimed is:

1. A material useful as a substrate for an embossed flexible graphite sheet, the material comprising a composite flexible graphite sheet comprising a plurality of zones of flexible graphite sheet, wherein:

at least one of said plurality of zones has a characteristic different from at least one other of said plurality of zones.

2. A material according to claim 1 wherein at least one of said zones comprises resin-impregnated graphite sheet.

3. The material of claim 1 wherein the property is one selected from the group consisting of: electrical conductivity, thermal conductivity, density, void condition, area weight, gas permeability, water permeability, particle size, type of graphite starting material, presence and composition of filler materials, degree of graphite intumescence, latent intumescence potential, the presence and composition of intercalation compounds, the presence and composition of residues, resin content and composition, degree of resin drying, degree of resin cure or cross-link, and the like.

4. The material of claim 1 wherein the thickness of the at least one of said plurality of zones is less than about 0.1 mm.

5. The material of claim 1 wherein zones are comprised of sheets less than about 2.0 mm in thickness.

6. The material of claim 1 wherein the difference in the characteristics is greater than about 5%.

7. The material of claim 1 comprising as at least one of said zones, a graphite sheet material of area weight of from about 0.001 to about 2.0 g/cm^2.

8. The material of claim 1 further including a layer of a diverse material interposed between at least two layers of said plurality of layers.

9. The material of claim 8 wherein the diverse material is a foraminous one selected from the group consisting of woven and nonwoven fabrics or webs or metal foils.

10. The material of claim 8 wherein the diverse material is a nonporous sheet, film or foil.

11. The material of claim 1 wherein at least one of said plurality of zones has a density of at least about 1.1 g/cc and at least one of said plurality of layers has a density of less than about 1.0 g/cc.

12. The material of claim 1 wherein the resin is present at a level of at least about 5% in the flexible graphite sheet.

13. The material of claim 12 wherein the resin comprises an acrylic-based resin system, an epoxy-based resin system or a phenolic-based resin system.

14. A process for preparing a composite material useful as a substrate for forming an embossed flexible graphite sheet, comprising a plurality of zones of flexible graphite sheet, wherein at least one of said plurality of zones has a density higher than at least one other of said plurality of regions, comprising;

placing a first portion of resin-impregnated flexible graphite sheet in contact with at least one other portion of resin-impregnated flexible graphite sheet having a characteristic different from said first portion to form a composite; and

subjecting the composite to consolidating pressure.

15. A process according to claim 14 wherein at least one of said zones comprises resin-impregnated graphite sheet.

16. A process according to claim 14 wherein the property is one selected from the group consisting of: electrical conductivity, thermal conductivity, density, void condition, area weight, gas permeability, water permeability, particle size, type of graphite starting material, presence and composition of filler materials, degree of graphite intumescence, latent intumescence potential, the presence and composition of intercalation compounds, the presence and composition of residues, resin content and composition, degree of resin drying, degree of resin cure or cross-link, and the like.

17. A process according to claim 14 wherein the thickness of the at least one of said plurality of zones is less than about 0.1 mm.

18. A process according to claim 14 wherein zones are comprised of sheets less than about 2.0 mm in thickness.

19. A process according to claim 14 wherein the difference in the characteristics is greater than about 5%.

20. A process according to claim 14 wherein at least one of said zones, comprises a graphite sheet material of area weight of from about 0.001 to about 2.0 g/cm^2.

22. A process according to claim 14 further including a layer of a diverse material interposed between at least two layers of said plurality of layers.

23. A process according to claim 14 wherein the diverse material is a foraminous one selected from the group consisting of woven and nonwoven fabrics or webs or metal foils.

24. A process according to claim 23 wherein the diverse material is a nonporous sheet, film or foil.

25. A process according to claim 14 wherein at least one of said plurality of zones has a density of at least about 1.1 g/cc and at least one of said plurality of layers has a density of less than about 1.0 g/cc.

26. A process according to claim 14 wherein the resin is present at a level of at least about 5% in the flexible graphite sheet.

27. A process according to claim 14 wherein the resin comprises an acrylic-based resin system, an epoxy-based resin system or a phenolic-based resin system.